

AMENDMENTS TO THE SPECIFICATION:

Please amend the following paragraphs as indicated:

[0013] Regarding the instant rotary switch for vehicles that includes a number of rotational positions and at least one axial position, an object of the invention is achieved by at least one axial position being spring-loaded. The method according to the invention for controlling a plurality of electronic functions by means of a spring-loaded rotary switch solves the problem by a first function being activated by a first pushing movement in from a neutral position and a second function being activated by a first pulling movement out from the neutral position.

[0015] In an advantageous first further development of the system according to the invention, the axial position is activated by a pushing movement or by a pulling movement in from or out from a neutral position, respectively. The advantage of this is that the activation of the axial function can be logically related to the physical function.

[0017] A method according to the invention for controlling a plurality of electronic functions by means of a spring-loaded rotary switch comprises (includes, but is not limited to) steps of activating a first function by a first pushing movement in from a neutral position and of activating a second function by a first pulling movement out from the neutral position. The advantage of this method is that it is possible to control electronic functions by means of a rotary switch in a simple and logical way.

[0018] In an advantageous further development of the method of the present invention, the method also comprises the steps of deactivating the first function by a second pushing movement in from the neutral position and of deactivating the second function by a second pulling movement out from the neutral position. The advantage of this is that the electronic functions can be deactivated either by an operator or automatically by the system without a mechanical return of the rotary switch being required.

[0019] In another advantageous development of the inventive method, the method also comprises the step of activating ~~a third or fourth function~~ additional function(s) when the rotary switch is pushed in from a neutral position or pulled out from a neutral position a predetermined number of times during a predetermined interval of time. The advantage of this method is that it is possible to control electronic functions by means of a rotary switch in a simple and logical way.

[0020] In yet another advantageous development of the method performed according to the invention, a step is executed that includes activating ~~a fifth or sixth function~~ additional function(s) when the rotary switch has been pushed in from a neutral position or pulled out from the neutral position for a predetermined interval of time by the first pushing movement or pulling movement, respectively. The advantage of this method is that it is possible to control electronic functions by means of a rotary switch in a simple and logical way.

[0021] In a fourth advantageous development, the method also comprises the step of activating a ~~seventh or eighth function~~ additional function(s) by means of a rotary movement when the rotary switch has been pushed in or pulled out respectively. The similar advantage of this development is that it is possible to control electronic functions by means of a rotary switch in a simple and logical way.

[0023] ~~FIG. 1~~ The Figure is a schematic view of an exemplary rotary switch configured according to at least one embodiment of the invention.

[0025] In a first embodiment of a rotary switch 1 configured according to the invention as illustratively shown in ~~FIG. 1~~ the Figure, the rotary switch 1 has four rotational positions 3, 4, 5, 6. The different positions are set by a control element 2 which is turned to the required position. In this embodiment, the rotary switch is used to control the driving light functions; that is, parking lights, dipped/full beam of the headlamps, auxiliary light and fog lamps on a truck or other vehicle. The number of rotational positions of the rotary switch 1 may be varied, and is selected as required. Thus, for example, a rotary switch intended for a bus can have six rotational positions.

[0029] In addition, the rotary switch has two non-neutral, activation axial positions. These positions are used in this example to control the fog lamps on a truck. One position, here called the pushed-in position, is obtained by the control element being pushed in from a neutral position. When the control element is pushed in, a contact in the rotary switch sends a signal to the light module that means that an output is to be activated. In this example, this output drives the front fog lamps. The control element is spring-loaded so that it returns to its normal position (i.e., the neutral position) in the axial direction when the control element is released. This means that the signal that is sent to the light module is momentary.

[0030] The second position, here called the pulled-out position, is obtained when the control element is pulled out from the neutral position. When the control element is pulled out, a contact in the rotary switch sends a signal to the control unit that means that an output is to be activated. In this example, this output drives the rear fog lamps. The control element is spring-loaded so that it returns to its normal position (i.e., the neutral position) in the axial direction when the control element is released. This means that the signal that is sent to the light module is momentary. The control element is advantageously designed so that its surface provides a good grip for being pulled out.

[0037] In a first embodiment of the method according to the invention for controlling a plurality of electronic functions by means of a spring-loaded rotary switch, the steps are included of activating a first function by means of a first pushing movement in from a neutral position and of activating a second function by means of a first pulling movement out from the neutral position. The first function is activated by pushing in the control element of the rotary switch. The second function is activated by pulling out the control element of the rotary switch. The control element of the rotary switch is spring-loaded so that it is normally in an intermediate position (i.e., the neutral position).

[0038] For example, the first function can be front fog lamps on a truck. When the control element is pushed in, the output is activated that drives the front fog lamps. The second function can be, for example, rear fog lamps on a truck. When the control element is pulled out, the output is activated that drives the rear fog lamps. The control element is spring-loaded so that it returns to its normal, neutral position in the axial direction when the control element is released.

[0041] The functions that are controlled by the axial positions do not need to be fog lamps. For example, these positions can be used to control the functions "headlamp interrupt" and "marker interrupt". These functions are common in certain markets. The function "headlamp interrupt" means that the driving lights are extinguished when the control element is pushed in. The function "marker interrupt" means that the position lights on the vehicle [is] are extinguished when the control element is pulled out. In these cases, the outputs are not alternating but are mono-stable. Other functions for which the rotary switch according to the invention can be used are sign illumination, plough lighting, lateral lights, fifth wheel illumination or additional reversing lights.

[0042] In an additional development of the method of the invention, ~~a third or fourth function~~ additional function(s) can be activated when the rotary switch is pushed in or pulled out from the neutral position a number of times within an interval of time. For example, ~~the third~~ such a function can be activated when the control element is pushed in twice within one second. The deactivation of this function can be carried out by pushing in the control element a number of times within an interval of time. For example, the ~~third~~ function can be deactivated when the control element is pushed in twice within one second. An example of such a ~~third~~ function can, for example, be that the front fog lamps are not deactivated when the vehicle's engine is switched off. This can be advantageous, for example, for a delivery vehicle that stops frequently and where the driver wants to have the front fog lamps on when the vehicle is running. The indication that the function is active can be carried out by an illuminated symbol.

[0043] In a second development of the method according to the invention, ~~a fifth or sixth function~~ additional function(s) can be activated when the rotary switch is pushed in or pulled out from the

neutral position, respectively, for a predetermined period of time. In this further development, a predetermined period of time is stored in the memory unit. When the control element is pushed in or pulled out, the control unit counts the time during which the control element is operated. If the operating time is longer than the predetermined period of time, a ~~fifth or sixth~~ further function is activated. An example of such a ~~fifth~~ further function can, for example, be that the front fog lamp is not deactivated when the vehicle's engine is switched off. This can be advantageous, for example, for a delivery vehicle that stops frequently and where the driver wants to have the front fog lamps on the whole time. The deactivation of this function can be carried out by holding the control element pushed in for the predetermined period of time once again. The indication that the function is active can be carried out by an illuminated symbol.

[0044] In a third development of the method of the present invention, a ~~seventh or eighth function~~ additional function(s) can be activated when the control element is pushed in or pulled out from the neutral position, respectively, at the same time as the control element is turned to a particular position. In this further development, the control unit detects that the control element is pushed in or pulled out at the same time as the control element is turned to a particular position. The control unit can detect either from which position the control element is turned, to which position the control element is turned or in which direction the control element is turned. Dependent upon what conditions have been stored in the memory unit, a ~~seventh or eighth~~ an additional function is activated. An example of such a ~~seventh~~ function can, for example, be that the front fog lamp is to be activated constantly when the vehicle is running if the vehicle has not been stopped for more than a predetermined waiting time, for example one hour. This can be advantageous, for example, for a delivery vehicle that stops frequently and where the driver wants to have the front fog lamps switched on throughout the whole of his shift. When his shift is finished and the vehicle is parked, the waiting time will be more than one hour, which means that when his next shift starts the front fog lamps are deactivated. The deactivation of this function can be carried out by holding the control element pushed in while at the same time turning the control element. The indication that the function is active can be carried out by an illuminated symbol.